

THE GENERIC, SPECIFIC AND LOWER CATEGORY
NAMES OF THE NEARCTIC BUTTERFLIES
PART 2 — *The Genus Colias*

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THE NAMES INCLUDED in this genus are presented in the same manner as were those of the genus *Pieris* in the first part of this series (*Jour. Res. Lepid.* 1 (1) : 63-71, 1962).

W. Hovanitz has separated the members of the genus into specific groups as best he felt was possible in view of the extensive hybridization in the genus.

The genus *Zerene* Hübner, although considered a subgenus of *Colias* by some students, will be dealt with separately in a subsequent part.

The data for *chrysotheme* Esper has been listed under the *eurytheme* group purely as a convenient place in which to give this reference; should a relationship be established between *chrysotheme* and *eurytheme*, the former must, of course, be accorded priority.

The name *notatus* has been presented in the *philodice* group under the authorship of Megerle and also under the authorship of Clark and Clark because of its present uncertain nomenclatorial status.

LIST OF GENERIC NAMES USED OR AVAILABLE FOR
COLIAS.

COLIAS Fabricius.

Type: *hyale* Linnaeus.

EURYMUS Horsfield.

Type: *hyale* Linnaeus.

COLIAS FABRICIUS. 1807 [before 19 Dec.]. In K. Illiger. *Magazin für Insektenkunde* 6: 284, no. 24. Includes among others "*Pap . . . Hyale*" and "*P. Rhamni*" both considered to be of Linnaeus, 1758. Type. *P[apilio]. D[anaus]. [Candidus] hyale* Linnaeus. 1758. *Syst. Nat.* 10th. Ed. 1: 469, no. 71.

Type Selection. 30 Sept. 1943. *Opinions & Declarations Rendered by the International Commission on Zoological Nomenclature* 2(13): 109-121. The type is declared to be *hyale* Linnaeus, 1758. This declaration invalidates the selection of "*Colias Rhamni*, Fab." (considered to be *rhamni* Linnaeus, 1758) by Latreille, 1810, *Consid. Gén. Anim. Crust. Arach. Ins.* : 440.

EURYMUS HORSFIELD. (Swainson Ms. name). 1829. [24 June]². *Catal. Lepid. Ins. Contained Mus. Honor. East Indies Company* (2): 134. Gives only "*Colias Hyale*" which is considered to be *hyale* Linnaeus, 1758. The name is a homonym of *Eurymus Rafinesque*, 1815³.

Type. *P[apilio]. D[anaus]. [Candidus] hyale* Linnaeus. 1758. *Syst. Nat.* 10th. Ed. 1: 469, no. 71.

Type Selection. Horsfield. 1829 [24 June]². *Ibid.* (2): 134. "Mr. Swainson gives *Colias Hyale* as the type of this subgenus . . ."

LIST OF SPECIES AND LOWER CATEGORY NAMES USED OR AVAILABLE FOR COLIAS

1. **COLIAS BEHRII** W. H. EDWARDS.
behrii W. H. Edwards.
canescens (J. A. Comstock).
2. **COLIAS BOOTHII** CURTIS.
boothii Curtis.
chione Curtis.
3. **COLIAS EURYTHEME** BOISDUVAL.
alba Strecker.
alba Strecker.
amphidusa Boisduval.
ariaadne W. H. Edwards.
californiana Ménétriés
chrysothème (Esper).
eurythème Boisduval.
flava Strecker.
fumosa Strecker.
intermedia Cockerell.
keewaydin W. H. Edwards.
pallida Cockerell.
pallida Cockerell.
pallida Cockerell.
rudkini (Gunder).
unicitrina (Gunder).
4. **COLIAS GIGANTEA** STRECKER.
gigantea Strecker.
harroweri Klots.
marjorie Chermock & Chermock.
mayi Chermock & Chermock.
pelidneides Staudinger.
5. **COLIAS HECLA** LEFEBVRE.
chrysothemoides Verity.
glacialis M'Lachlan.
hecla Lefebvre.
hela Strecker.
palamedes Hemming.
pallida Skinner.
6. **COLIAS MEADII** W. H. EDWARDS.
elis Strecker.
meadii W. H. Edwards.
medi (Gunder).
7. **COLIAS NASTES** BOISDUVAL.
alaska Bang-Haas.
cocandicides Verity.
gueneei Avinoff.
harperi (Gunder).
moima Strecker.
nastes Boisduval.
obscurata Verity.
palliflava (McDunnough).
rossii Guenee.
8. **COLIAS OCCIDENTALIS** SCUDDER.
alba Strecker.
alberta Bowman.
alexandra W. H. Edwards.
astraea W. H. Edwards.
barbara Henry Edwards.
christina W. H. Edwards.
chrysomelas Henry Edwards.
edwardsii W. H. Edwards.
emilia W. H. Edwards.
harfordii Henry Edwards.
hatui (Barnes & Benjamin).
krauthii Klots.
lambillioni Dufrane.
martini (Gunder).
occidentalis Scudder.
pallida Cockerell.
pallida Cockerell.
pallidissima Bowman.
shastae (Barnes & Benjamin).
weaverae (Gunder).
9. **COLIAS PALAENO** (LINNAEUS).
chippewa W. H. Edwards.
helena W. H. Edwards.
koblsaati (Gunder).
lapponica Staudinger.
palaeno (Linnaeus).
philomene (Hübner).
werdandi Herrich-Schäffer.
10. **COLIAS PELIDNE** BOISDUVAL & LECONTE.
interior Scudder.
isni (Barnes & Benjamin).
labradorensis Scudder.
laurentina (Scudder).
minisni Bean.
mira Verity.
moeschleri Grum-Grshimailo.
nepi (Barnes & Benjamin).
neri (Barnes & Benjamin).
pelidne Boisduval & LeConte.
skinneri Barnes.
solinaga W. H. Edwards.
11. **COLIAS PHILODICE** GODART.
alba Strecker.
alba F. Chermock.
albida (F. Chermock).
albinic W. H. Edwards.
antbyale (Hübner).

autumnalis Cockerell.
ebmanni F. Chermock.
eriphyle W. H. Edwards.
europome (Haworth).
hagenii W. H. Edwards.
hybrida Strecker.
inversata Nakahara.
kootenai Cockle.
laurae (F. Chermock).
lutetincta Wolcott.
melanic W. H. Edwards.
melanic W. H. Edwards.
minor F. Chermock.
miscidice (Scudder).
nig Strecker.
nigricosta (F. Chermock).
nigridice (Scudder).
nigrina Strecker.

nigrofasciata Reiff.
notatus (Mergerle).
notatus (Clark & Clark).
pallidice (Scudder).
philodice Godart.
plicadula Nakahara.
rarius (Gunder).
reducta Dufrane.
rothkei Reiff.
serrata (F. Chermock).
suffusa Cockerell.
virida Strecker.
vitabunda Hovanitz,
COLIAS SCUDDERII
REAKIRT.
flavotincta Cockerell.
ruckesi Klots.
scudderii Reakirt.

12.

1. COLIAS BEHRII W. H. EDWARDS.

behrii, *Colias* W. H. Edwards. Oct. 1866. Proc. Ent. Soc. Phila. 6 (pp. 201-208): 201. "From 2 ♂, 1 ♀, received from Dr. Behr, and taken among the Yo Semite mountains at an elevation of about 10,000 feet above the sea." No dates given. Spelled *behri* by J. A. Comstock, 20 May 1925, Bull. Sou. Calif. Acad. Sci. 24(1): 3.
canescens, *Eurymys behri* J. A. Comstock. 20 May 1925. Bull. Sou. Calif. Acad. Sci. 24(1): 3. "Type [♀], Tioga Pass, Yosemite, Calif., Aug. 4, 1922. Six paratypes [♀ ♀]. Same place and date. In the collection of the Southwest Museum."

2. COLIAS BOOTHII CURTIS.

chione, *Colias* Curtis. 1835. In J. Ross. Append. Narr. 2nd Voy. Search North-West Pass. (Nat. Hist. Sect.), pp. lxvi-lxvii, no. 11; plate A, fig. 6. ♂ & ♀ described. ". . . they were captured from the 14th of July to the 13th of August, 1830, and on the 19th were in a very wasted state; on the 14th of July, of the following year, one *Colias* only was taken." No locality nor series data given here.

boothii, *Colias* Curtis. 1835. In J. Ross. Append. Narr. 2nd Voy. Search North-West Pass. (Nat. Hist. Sect.), pp. lxv-lxvi, no. 10; plate A, figs. 3-5. ♂ & ♀ described. No locality, series data nor dates given here. Spelled *boothi* by Verity, 1905-1911, Rhopal. Palaearctica, p. 238.

3. COLIAS EURYTHEME BOISDUVAL.

alba, *Colias chrysothème eurythème* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 83, no. 60b. Cites ♀ figures in W. H. Edwards, Butt. N. Amer. [1]: plate *Colias* III, figs. 5-6, 1869. No locality, series data nor dates given here.

alba, *Colias chrysothème keewaydin* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 83, no. 60e. Cites ♀ figures in W. H. Edwards, Butt. N. Amer. [1]: plate *Colias* IV, figs. 8-9, 1869. No locality, series data nor dates given here.

amphidusa, *Colias* Boisduval. 1852 [Aug.]⁵ Ann. Soc. Ent. France. 2nd. Ser. 10(2): 286-287, no. 14. ♂ & ♀ described. "Du nord de la Californie." No series data nor dates given. Spelled *amphidona* by W. H. Edwards, 1869, Butt. N. Amer. [1]: [45].

ariadne, *Colias* W. H. Edwards. Jan. 1870. Trans. Amer. Ent. Soc. 3(?) sign. 2: 12-13. "1 ♂, 1 ♀, from the collection of Dr. Behr, and taken at Mokeluma Hills, California." No dates given.

- californian*, *Colias edusa* Ménétrière. Dec. 1855. Enum. Corp. Anim. Mus. Imper. Acad. Sci. Petropolitanae. Class. Ins. Ordo Lepid. (1): 80, under no. 253. "Ces caracteres indiqués ci dessus se reproduisent constamment sur environs 6 males et 4 femelles, tous rapportés de la Nouvelle Californie par notre zele voyageur Wosnesensky." No dates given.
- chrysothème*, *Dan[aus]*. *Can[didus]*. Esper. [1781]⁶. Die Schmetterlinge 1(2) heft 3: 89-90, no. 131; plate 65, figs. 3-4. ♂ & ♀ described. No locality, series data nor dates given. Note: This name is included here only for convenience.
- eurythème*, *Colias* Boisduval 1852 [Aug.]⁵. Ann. Soc. Ent. France. 2nd. Ser. 10(2): 286, no. 13. "Commune dans toute la Californie. Elle habite aussi le Mexique et quelques parties des États-Unis." No sex, series data, nor dates given. Spelled *enegethenu* by W. H. Edwards, 1872, in F. V. Hayden, Prel. Rept. U. S. Geol. Surv. Mont. & Port. Adj. Terr. 5th. Rept. Progress, p. 466.
- flava*, *Colias chrysothème eurythème* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths. N. Amer., Compl. Syn. Catal., p. 83, no. 60c. ♀ described. "Mus. Strecker." No locality, series data nor dates given.
- fumosa*, *Colias eurythème* Strecker. 1900 [Mar. 9th - 13th]⁷. Lepid., Rhopal. & Heter., Indig. & Exot. Suppl. No. 3: 19. "One ♀, Colorado . . ." No date given.
- intermedia*, *Colias eurythème* Cockerell. Mar. 1888 [after 9th]⁶. West Amer. Scientist 4(35): 41-43 (in pt.). ♀ described. "In this locality (Swift Creek, Custer Co., Colo[rado] . . ." No series data nor dates given.
- keewaydin*, *Colias* W. H. Edwards. [Sept. 1869, on or before 13th]⁹. Butt. N. Amer. [1](4): [47]-[49]; plate (15), figs. 1-9. ♂ & ♀ described. "Found in the valley of the Mississippi from Nebraska and Illinois to Texas and westward to the Pacific, occupying much the same region as *Eurythème*, but apparently less common and more local than that species. Also occasionally found in the Middle States and Canada." "There appear to be two broods during the year, the insects being most abundant early in the spring, in fact, before *Eurythème* makes its appearance." No series data nor dates given.
- pallida*, *Colias eurythème* Cockerell. Nov. 1887. West. Amer. Scientist 3(31): 217. ♀ described. ". . . near West Cliff, Custer Co., Colorado." No dates given.
- pallida*, *Colias eurythème intermedia* Cockerell. Mar. 1888 [after 9th]⁶. West. Amer. Scientist 4(35): 41-43 (in pt.). ". . . Whitish females occur of . . . *intermedia*, these may be called *pallida*." No locality, series data nor dates given.
- pallida*, *Colias eurythème keewaydin* Cockerell. Mar. 1888 [after 9th]⁶. West. Amer. Scientist 4(35): 41-43 (in pt.). ". . . Whitish females occur of . . . *keewaydin* . . . these may be called *pallida*." No locality, series data nor dates given.
- rudkini*, *Eurymus eurythème* Gunder. 31 Dec. 1932. Can. Ent. 64(12): 277-278. "Holotype - ♀ . . . San Marino, Los Angeles Co., Calif., May 23, 1931. Type in Author's coll."
- unicitrina*, *Eurymus eurythème amphidusa* Gunder. 8 May 1924. Ent. News 35(5): 158; plate 2, fig. J. "Holotype ♂, (Author's Coll.) Upland, Los Angeles County, California; August 2, 1921."
4. **COLIAS GIGANTEA STRECKER.**
- gigantea*, *Colias pelidne* Strecker. 1900 [Mar. 9th - 13th]⁷. Lepid., Rhopal. & Heter., Indig. & Exot. Suppl. No. 3: 19. "Five ♂ ♂, 7 ♀ ♀, west coast Hudson Bay, above Fort York, Archdeacon Kirby." No dates given.

barroweri, *Colias gigantea* Klots. 22 Mar. 1940. Amer. Mus. Nov. No. 1054: 4-6. "Type Lot — All are from Clear Creek, vicinity Lower Green River Lake, Sublette Co., Wyo[oming], alt. 8400 ft. Holotype male, three male and two female paratypes, August 3, 1935 . . . ; allotype female, nine male and one female paratypes, July 16, 1939 . . ."

marjorie, *Colias christina mayi* Chermock & Chermock. 30 Apr. 1940. Can. Ent. 72(4): 82. "Holotype - ♀, June 26, 1933, Riding Mountains, Manitoba. Paratypes - 1-50, same locality." Page 81: ". . . holotypes will be deposited in Canadian National Collection . . ."

mayi, *Colias christina* Chermock & Chermock. 30 Apr. 1940. Can. Ent. 72(4): 81. "Holotype - ♂, July 1, 1933, Riding Mountains, Manitoba. Allotype - ♀, July 1, 1933, same locality. Paratypes - 1 to 150, same locality." Page 81: ". . . holotypes will be deposited in the Canadian National Collection and the allotypes in the Carnegie Museum."

pelidneides, *Colias palaeno* Staudinger. May 1901. In Staudinger & Rebel. Catal. Lepid. Palaeart. Faun. 3rd. Ed., p. 15, no. 86i. ♂ described. "Amer. bor. (Hudson Bay, Alaska)." No series data nor dates given.

5. COLIAS HECLA LEFEBVRE.

chrysothemoides, *Colias hecla* Verity. 1905-1911. Rhopal. Palaeartica: p. 356; p. xxxvii; plate LXXI, figs. 22-23; plate LXXI explanation page, figs. 22-23. "22 . . . ♂ (Territoire de Barren, 114°, 30' long. O., 67° 40' lat. N., Am. boréale)." "23 . . . ♀ ([same as 22])." Collection of British Museum. No series data nor dates given.

glacialis, *Colias hecla* M'Lachlan. 23 May 1878. Jour. Linnean Soc. (London), Zoology 14(74): 108. "Two ♂ and one ♀ from lat. 81° 45', August 12th, 1876, and one ♀ from Hales Sound, lat. 79° . . . also a much crippled ♂ . . . from Discovery Bay, July 18th, 1876 . . ."

hecla, *Colias* Lefebvre. 1836 [after 6 Apr.]^o. Ann. Soc. Ent. France 5(?) : 383-387; plate 9, figs. 3-6. ♂ & ♀ described. ". . . l'Islande est la patrie . . .". No series data nor dates given.

bela, *Colias* Strecker. Sept. 1880. Bull. Brooklyn Ent. Soc. 3(5) : 33-34. ". . . the present descriptions are from 1 ♂ and 2 ♀♀; a few more were taken, but these are all I have had the opportunity of examining. They were captured . . . a considerable distance above Fort Churchill on west coast of Hudson's Bay; . . .". No dates given.

palamedes, *Colias hecla* Hemming. May 1934. Stylops, Jour. axon. Ent. (5) : 98, no. 17. A new name for *Colias hecla pallida* Skinner which he states is a homonym of *Colias erato pallida* Staudinger (1861, in Staud. & Wocke, Cat. Lepid. Europ., p. 3).

pallida, *Colias hecla* Skinner (Skinner & Mengel Ms. name). 1 Mar. 1892. Ent. News 3(3) : 49; plate 2, fig. 4. ♀ figured. ". . . from Greenland." No date given. A homonym of *Colias erato pallida* Staudinger (1861, in Staud. & Wocke, Cat. Lepid. Europ., p. 3). Spelled *palida* by Holland, 1931, Butt. Book, rev. ed., p. 298.

6. COLIAS MEADII W. H. EDWARDS.

elis, *Colias* Strecker. 10 Mar. 1885. Proc. Acad. Nat. Sci. Phila. [37] (sign. 2) : 24. Description concluded on page 25 (sign. 3) : 7 Apr. 1885. "Taken . . . at an elevation of 10,000 feet, on the summit of "Kicking Horse Pass," in the Rocky Mountains, between Alberta Territory and British Columbia, at the boundary between the United States and the British possessions, about 300 miles north of Montana." "Capt. Geddes took about fifteen examples, all females . . ." No dates given.

- meadii*, *Colias* W. H. Edwards. Feb. 1871. Trans. Amer. Ent. Soc. 3(?) sign. 34: 267-268. ♂ & ♀ described. No locality, series data nor dates given. In his Butt. N. Amer. [1]: 59, 1868-1872, he says: "Taken in Colorado . . . in the month of July, 1871." He speaks of Mr. T. L. Mead taking 12 specimens on the "divide," 34 specimens on "Mt. Lincoln" and 1 specimen at "Kenosha House." Spelled *meadi* by Holland, 1931, Butt. Book, rev. ed., p. 297.
- medi*, *Eurymus meadii* Gunder. 30 June 1934. Can. Ent. 66(6): 125. "Holotype - ♀, . . . Beckenridge Peak (11,000 ft.), Empire County, Colorado, Aug. 8, 1919. Type in Author's coll."
7. **COLIAS NASTES BOISDUVAL.**
- aliaska*, *Colias nastes* Bang-Haas. 15 Aug. 1927. Horae Macrolepid. Reg. Palaearctica 1(3): 41. Figs. 24-25 on plate 5 were published later. "Habitat: Alaska: Rampport 8. Juli, . . ., 3 ♂ 2 ♀". Spelled *alaskae* by McDunnough, 1938, Mem. Sou. Calif. Acad. Sci. 1: 8, no. 52e.
- cocandicides*, *Colias nastes rossii* Verity. 1905-1911. Rhopal. Palaearctica; p. 355 (as *rossii*); p. xxxvii (as *cocandicides*); plate LXXI, figs. 7-9; plate LXXI explanation page, figs. 7-9 (as *rossii*). "7 . . . ♂ (Territoire de Barren, 114°, 30' long. 0., 67° 40' lat. N., Am. boréale)". "8 . . . ♀ ([same as 7])". "9 . . . ♂ . . . ([same as 7 & 8])". No series data nor dates given.
- gueneei*, *Colias nastes* Avinoff. 10 Dec. 1935. In Holland & Avinoff. Mem. Carnegie Mus. 12(2): sect. 5, sub-sect. 2: 13-14, no. 10; & page 32; plate 27, figs. 1, 11, 21-22, 25-27, 31-32. ♂ & ♀ described. Locality: Southampton Island. No series data nor dates given.
- harperi*, *Eurymus nastes moina* Gunder. 31 Dec. 1932. Can. Ent. 64(12): 278. "Holotype - ♀, . . .; Ft. Churchill, Manitoba, Can[ada], July 19, 1932. Type in Author's coll."
- moina*, *Colias* Strecker. Sept. 1880. Bull. Brooklyn Ent. Soc. 3(5): 34. ♂ & ♀ described. "Described from a large number of examples mostly males." ["a considerable distance above Fort Churchill on West Coast of Hudson's Bay" . . .] (taken from Strecker's text of *bela*, p. 34).
- nastes*, *Colias* Boisduval. [1832]¹¹. Icon. Hist. Lépid. Nouv. Peu Connu (?): plate 8, figs. 4-5 (♂). Pages 245-246 published later (♂ & ♀). "Elle se trouve au Cap-Nord et en Islande. M. Sommer m'en a aussi envoyé plusieurs individus pris au Labrador." No series data nor dates given.
- obscurata*, *Colias nastes streckeri* Verity. 1905-1911. Rhopal. Palaearctica; pp. 354-355 (in pt.); p. xxxvi; plate LXXI, fig. 6; plate LXXI explanation page, fig. 6. "6 . . . ♂ . . . (Lake Louise, Alberta)". No date given.
- palliflava*, *Eurymus nastes streckeri* McDunnough. 25 July 1927. Can. Ent. 59(7): 153-154. ♂ described. ". . . higher slopes of Mt. McLean (above 6500 ft.) on July 12 . . .". ". . . type No. 2425 in the Canadian National Collection, Ottawa".
- rossii*, *Colias nastes* Guenée. 12 Oct. 1864. Ann. Soc. Ent. France. 4th. Ser. 4(2): 199-200. ♂ & ♀ described. ". . . trois individus . . .". No locality nor dates given here. Spelled *rossi* by Holland, 1931, Butt. Book, rev. ed., p. 299.
- streckeri*, *Colias nastes* Grum-Grshimailo. 30 Apr. 1895. Horae Soc. Ent. Rossicae 29 (1-2): 290-291, no. 2. ♂ & ♀ described. "Specimen unum hujus varietatis sub nomine "*Colias Behrii*?" a lepidopterologo germanico D-re O. Staudinger anno 1891, quattuor specimina, in provincia Alberta ad Laggan collecta, a lepidopterologo americano Dom. H. Strecker, cujus in honorem hanc formam nominavi, accepi".

subarctica, *Eurymus nastes* McDunnough. 1 Dec. 1928. Can. Ent. 60(11): 270-271. "Holotype. - ♂, Bernard Harbour, N. W. T., Aug. 9, 1915, . . . , No. 2863 in the National Collection, Ottawa. Allotype. - ♀, same data. Paratypes. - 4 ♂, 4 ♀, from same locality, taken on various dates early in August".

thula, *Colias nastes* Hovanitz. [1955, Mar. 9 - 11 Oct.]¹². Wasmann Jour. Biology 13(1): 1-8; figs. 1-2. "These collections [made in 1952 and 1953] of *Colias* consisted primarily of the species *C. nastes* (thirty-five specimens) . . .". "The specimens with which we are concerned here were collected at a camp located along this river [Meade River, northwestern part of Alaska Territory] at a point North 70° 45' by 156° 30' West". "Holotype male and Allotype female. Locality: Near the Mead River, Alaska Territory, Alaska, N 70° 45' x 156° 30' W. Date: Male July 13, 1952, and female July 11, 1952 . . . Depository: U . . . S . . . Nat. . . Mus. . . , Washington, D. C. Paratypes: One pair in the author's collection at the California Academy of Sciences, San Francisco, California. One pair each in the Canadian National Collection at the Department of Agriculture, Ottawa; the American Museum of Natural History, New York; and the British Museum of Natural History, London. These may be dated 1952 or 1953 . . . The remainder of the series are in the collection of the Allan Hancock Foundation".

8. *COLIAS OCCIDENTALIS* SCUDDER.

alba, *Colias alexandra* Strecker. 1878 [Sept.-Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 81, no. 55a. ". . . a white ♀ form of rare occurrence". No. locality, series data nor dates given.

alberta, *Colias eurytheme* Bowman. 9 Mar. 1942. Can. Ent. 74(2): 25. "Holotype - ♂, Wembley, Alberta, June 24, 1925, in the author's collection. Allotype - ♀, Wembley, Alta., June 25, 1925, in the author's collection. Paratypes - 7 ♂, 2 ♀, Wembley, Alta., June 14-25, 1925; 1 ♂, 1 ♀, Beaver Lodge, Alta., June 29 and July 12, 1924; 1 ♂, Fort Vermilion, Alta., June 13, 1925; 1 ♀, Boswell, B. C., July 22, 1927; 2 ♀, Rolla, B. C., July 1 and 21, 1927. Paratypes in the Canadian National Collection and in the collection of the author."

alexandra, *Colias* W. H. Edwards. [1863, Mar.-May - 12 Oct.]¹³. Proc. Ent. Soc. Phila. 2(1): 14-15. Figs. 1-3 on plate 11 may have been published later. "From Pike's Peak; in the Society's collection; 6 males, 1 female. The second female is from the collection of Mr. George Newman and was taken among the Rocky Mountains . . .". No dates given.

astraea, *Colias* W. H. Edwards. Feb. 1872. Trans. Amer. Ent. Soc. 4(?) sign. 8: 61. "From a single male taken near the Yellowstone Lake by the Hayden Expedition, in 1871". No date given.

barbara, *Colias* Henry Edwards. 5 Feb. 1877¹⁴. Pac. Coast Lepid. (24): 7-8 & 11. "Two females (Coll. Hy. Edw.), Santa Barbara, Baron v. Osten; Gilroy, J. Behrens". [Santa Barbara & Gilroy are both in California]. No dates given.

christina, *Colias* W. H. Edwards. [12 Oct. 1863]¹⁵. Proc. Ent. Soc. Phila. 2(2): 79-80. ♂ & ♀ described. "Taken at the portage of Slave River . . .". No series data nor dates given.

chrysomelas, [*Colias*]. Henry Edwards. 5 Feb. 1877¹⁴. Pac. Coast Lepid. (24): 8-9, 11. "Seven ♂, five ♀. Napa County, California]. (Coll. Hy. Edw.)". No dates given. Spelled *chryomelas* by H. Edwards, *Ibid.*, p. 9.

edwardsii, *Colias* W. H. Edwards (Behr Ms. name). Jan. 1870. Trans. Amer. Ent. Soc. 3(?) sign. 2: 11. "1 ♂, 2 ♀, from the collection of Dr. Behr, taken at Virginia City, [Nevada] at high elevation . . .". No dates given. Spelled *edwardsi* by Barnes & Benjamin, 8 Dec. 1926, Bull. Sou. Calif. Acad. Sci. 25(3): 89, under 67a.

- emilia*, *Colias* W. H. Edwards. Jan. 1870. Trans. Amer. Ent. Soc. 3(?) sign. 2: 12. "From 1 ♂, 1 ♀, taken in Oregon . . . Collection of Dr. Behr". No dates given.
- barfordii*, [*Colias*]. Henry Edwards. 5 Feb. 1877¹⁴. Pac. Coast Lepid. (24): 9 & 11. "From seven males, (Coll. Hy. Edw.) Contra Costa Co. (Hy. Edw.). Havilah, Kern Co. (R. H. Stretch)". [Both localities in California]. Spelled *barfordi* by Holland, 1931, Butt. Book, rev. ed., p. 294, no. 5.
- batui*, *Eurymus alexandra edwardsi* Barnes & Benjamin. 8 Dec. 1926. Bull. Sou. Calif. Acad. Sci. 25(3): 89, under no. 67a. "Type locality: Stockton, Utah. Number and sexes of types: Holotype ♀, VII-30-16; 1 ♀ Paratype, VII-5-3."
- krauthii*, *Colias christina* Klots. 24 Jan. 1935. American Mus. Nov. No. 767: 1-2. "Types. - Male holotype, allotype and thirty-one male and seven female paratypes, from twelve miles west of Custer, Black Hills, South Dakota, June 29, 1933; four male paratypes, vicinity of Custer, South Dakota, June 27, 1933, and five male and six female paratypes, Black Hills, South Dakota, July 1, 1931 . . .". "Holotype, allotype, and twelve male and five female paratypes are in the American Museum of Natural History; the remainder are in the author's collection."
- lambillioni*, *Colias elis* Dufrane. 28 Feb. 1947. Bull. & Ann. Soc. Ent. Belgique 83(1-2): 70. ♀ described. ". . . Canada, sans nom de localité précise . . .". No date given.
- martini*, *Eurymus barfordii* Gunder. 10 Sept. 1931. Bull. Sou. Calif. Acad. Sci. 30(2): 45. "Holotype ♀, . . . South side of Arrowhead Lake, San Bernardino Co., Calif. Sept. 2, 1931. Type in Author's coll."
- occidentalis*, *Colias* Scudder. Sept. 1862. Proc. Boston Soc. Nat. Hist. 9(?) sign. 7: 109-111; unnumb. fig. (p. 107). "2 ♂, 3 ♀. Gulf of Georgia (A. Agassiz); Fort Simpson, British America. (W. H. Edwards.)". No dates given.
- pallida*, [*Colias*]. *alexandra* Cockerell. May 1889. Entomologist 22(311): 128, under no. 2. Cites: ". . . (W. H. Edwards, Can. Ent., 1887, 229) . . .". Edwards speaks of two albino females sent by Bruce [from Colorado?]. No dates given.
- pallida*, [*Colias*]. *christina* Cockerell. May 1889. Entomologist 22(311): 128, under no. 2. Cites: ". . . (H. H. Lyman, Can. Ent., 1884, 6) . . .". Lyman speaks of two albino specimens of female. No dates given.
- palidissima*, *Colias eurytheme alberta* Bowman. 9 Mar. 1942. Can. Ent. 74(2): 25. "Holotype - ♀, Fort Vermilion, Alberta., July 15, 1925, in the author's collection. Paratypes - 2 ♀, same locality, June 9 and 15, 1925, in the Canadian National Collection and the collection of the author".
- shastae*, *Eurymus occidentalis chrysomelas* Barnes & Benjamin. 8 Dec. 1926. Bull. Sou. Calif. Acad. Sci. 25(3): 88, under no. 63a. "Albinic ♀ of *chrysomelas* . . .". "Type locality: Shasta Retreat, Siskiyou Co., Calif. Numbers and sexes of types: Holotype ♂ [in error], 1-7 July".
- weaverae*, *Eurymus barfordii* Gunder. 8 May 1924. Ent. News 35(5): 156-157; plate 2, fig. G. "Allotype [Holotype] ♀, (Author's Coll.) Warner Springs, San Diego County, California, July 3, 1949".
9. **COLIAS PALAENO (LINNAEUS).**
chippewa, *Colias* W. H. Edwards. [Aug. 1870]¹⁶. Syn. N. Amer. Butt. (pp. 7-14): 8, no. 15. A new name for his own *Colias belena*. "Hab. - Great Slave Lake" [differs from that given for *belena*]. See his *belena* for data.

- belena*, *Colias* W. H. Edwards. [12 Oct. 1863]¹⁵. Proc. Ent. Soc. Phila. 2(2): 80. ♂ & ♀ described. "From Mackenzie's River, . . ." No series data nor dates given. A homonym of *Colias belena* Herrich-Schäffer, 1844¹⁷. Syst. Bearbeit. Schmett. Europa 1(7): plate 45, figs. 206-207 (I have not seen this reference of Herrich-Schäffer).
- koblsaati*, *Eurymus chippewa* Gunder. 10 Sept. 1931. Bull. Sou. Calif. Acad. Sci. 30(2): 45. "Holotype ♀, . . . Mt. McKinley Nat. Park, Alaska, July 14, 1930". "Type in Author's coll."
- lapponica*, *Colias palaeno* Staudinger. End Jan. 1871. In Staudinger & Wocke. Catal. Europ. Faun., p. 5, no. 58a. ♂ described. Cites figs. 403-4 (♀, *werdandi*) on plate 83 in Herrich-Schäffer. 1848¹⁷, Syst. Bearbeit. Schmett. Europa 1(36). "Lap. Ross. s.". No series data nor dates given.
- palaeno*, *Papilio* [*Heliconius*] Linnaeus. 1761 [after 28 July]¹⁸. Fauna Svecica. Ed. Alt., p. 272, no. 1014. "Habitat in Pteride rarissime Upsaliae, frequentior in Finlandia". No sex data, series data nor dates given.
- philomene*, [*Papilio*] Hübner. [1805]¹⁹. Samm. Europ. Schmett. (*Papiliones*); no text; plate 117, figs. 602-603. Figs. 740-741 on plate 147 were published later.
- werdandi*, [*Colias*]. Herrich-Schäffer (Schönherr Ms. name). 1844¹⁷. Syst. Bearbeit. Schmett. Europa 1(3): plate 8, figs. 41-42; 1(7): 102 (published 1844); plate 83, figs. 403-404 (published 1848). No series data, no locality nor dates given. Homonym of *Colias werdandi* Zetterstedt, Insecta Lapponica, page 908, no. 2, [1839]²⁰.
10. **COLIAS PELIDNE BOISDUVAL & LÉCONTE.**
- interior*, *Colias* Scudder. Sept. 1862. Proc. Boston Soc. Nat. Hist. 9(?) sign. 7: 108-109; 1 unnumb. text fig. (p. 107). "5 ♂, 1 ♀. Northern shore of Lake Superior (Prof. Agassiz); mouth Saskatchewan River, British America (S. H. Scudder.)". No dates given.
- isni*, *Eurymus pelidne minisni* Barnes & Benjamin. 8 Dec. 1926. Bull. Sou. Calif. Acad. Sci. 25(3): 89, under no. 69c. "Type locality: Laggan, Al[ber]ta. Number and sexes of types: Holotype ♀, 16-23 Aug."
- labradorensis*, *Colias* Scudder. Sept. 1862. Proc. Boston Soc. Nat. Hist. 9(?) sign. 7: 107-108; unnumb. fig. (p. 107). "8 ♂, 5 ♀. Caribou Island, Strait of Belle Isle, Labrador. (A. S. Packard, Jr.)". No dates given.
- laurentina*, *Eurymus philodice* Scudder. Mar. 1876. Proc. Boston Soc. Nat. Hist. 18(2): sign. 12: 189-190. ". . . Cape Breton Island" [from article title]. "Thirty-nine specimens were collected, of which ten were gynandromorphic females, eight pallid females, and the rest males". No dates given.
- minisni*, *Colias elis* Bean. Apr. 1895. Psyche, Jour. Ent. 7(228): 228. Intended to withdraw his Ms. name for what he considered the albinic female of *elis* Strecker.
- mira*, *Colias pelidne* Verity. 1905-1911. Rhopal. Palaearctica; p. 347; p. xxxiv; plate LXVIII, fig. 49; pl. LXVIII explanation page, fig. 49. "49 . . . ♂ . . . (Ravea, Labrador) [e coll. Elwes]". No date given.
- moeschleri*, *Colias pelidne* Grun-Grshimailo. 30 July 1894. Horae Soc. Ent. Rossicae 27 (3-4): 379, no. 1. 1 ♀ described. "Specimen unum e museo . . . Moeschleri, . . . ; . . . alterum, in Labrador anno 1889 collectum, e museo lepidopterologi germanici Dom. M. Wiskotti acceptum."
- nepi*, *Eurymus interior* Barnes & Benjamin. 8 Dec. 1926. Bull. Sou. Calif. Acad. Sci. 25(3): 89, under no. 65. "Type locality: Nepigon, Ontario. Number and sexes of types: Holotype ♀, and 1 ♀ Paratype both 8-15 July."

neri, *Eurymus pelidne skinneri* Barnes & Benjamin. 8 Dec. 1926. Bull. Sou. Calif. Acad. Sci. 25(3): 89, under no. 69b. "Type locality: Yellowstone Park, Wyo[ming]. Number and sexes of types: Holotype ♀ 8-15 July; 2 ♀ Paratypes, 8-15 July and no date; all being original type females of *skinneri* Barnes."

pelidne, *Colias*. Boisduval & LeConte. 1829. Hist. Gén. Icon. Lepid. Chen. l'Amer. Sept. 1(7): plate 21, figs. 4-5 (♀). Pp. 66-67 published in livrason 8. ♂ & ♀ described. "Elle habite le Groenland et l'Islande. M. Sommer, observateur très-distingué, me l'a aussi envoyée comme venant du Labrador". No series data nor dates given.

skinneri, *Colias pelidne* Barnes. 1 Feb. 1897. Can. Ent. 29(2): 41-42. "Described from 15 males and 7 females - three of which are yellow, three white, and one intermediate — taken in Yellowstone National Park, and at Arangie, Idaho, in July".

solivaga, *Colias* W. H. Edwards (Henry Edwards Ms. name). 1877 [Feb. - 16 Apr.]²¹. Trans. Amer. Ent. Soc. 6(?) signs. 1-6: 17, under no. 68. Gives a Henry Edwards Ms. name as a synonym of *interior* Scudder.

11. COLIAS PHILODICE GODART.

alba, *Colias philodice* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 82, no. 58a. Cites ♀ figures in W. H. Edwards, Butt. N. Amer. 2: plate Colias II, fig. 6 and plate III, figs. 5-6, 1876. No locality, series data nor dates given here.

alba, *Colias philodice plicaduta* F. Chermock. 28 Apr. 1927. Bull. Brooklyn Ent. Soc. 22(2): 119. "Holotype ♀. July 30, 1924; 2 paratypes August 17, 1925; 1 paratype August 16, 1925. N. S. Pittsburgh, [Pennsylvania]."

albida, *Eurymus philodice plicaduta* F. Chermock. 15 Nov. 1928. Bull. Brooklyn Ent. Soc. 23(4): 173. A new name for his own *Colias philodice plicaduta alba* which he considered a homonym of *Colias philodice alba* Strecker, 1878. See his *alba* for data.

albinic, *Colias philodice* W. H. Edwards. [1884, after 12 Sept. - before 18 Feb. 1885]²². Trans. Amer. Ent. Soc. 11(3-4): 264, under no. 68. Cites his own Butt. N. Amer. 2: plate Colias II, 1876. No locality, series data nor dates given here.

anthyale, *Zerene* Hübn. 1823 [1 Jan. - 20 Apr.]²³. Zütr. Samm. Exot Schmett. 2nd. 100: 21, no. 154. Figs. 307-308 on plate [54] were published earlier but without names. ♂ described. "Aus Pennsylvanien". No series data nor dates given.

autumnalis, *Colias eurytheme eriphyle* Cockerell. Mar. 1888 [after 9th]⁶. West Amer. Scientist 4(35): 41-43 (in pt.). "On November 9, 1887, I caught a female specimen of the autumn brood of *eriphyle* in this locality" [(West Cliff, Custer Co., Colorado)].

ebmanni, *Colias philodice plicaduta* F. Chermock. 28 Apr. 1927. Bull. Brooklyn Ent. Soc. 22(2): 118. "Holotype ♀. August 3, 1921. N. S. Pittsburgh, [Pennsylvania]."

eriphyle, *Colias* W. H. Edwards. Apr. 1876. Trans. Amer. Ent. Soc. 5(?) sign. 26: 202-204. "Some thirty individuals of this species and of both sexes, were taken at Lake Labache, in British Columbia, . . . and the whole series came into my possession". No dates given.

europome, *P[apilio] D[anaus]. C[andidus]*. Haworth. 1803 [in or after July]¹⁸. Lepid. Britannica (1): 13, no. 12. "Habitat in Anglia, rarissimo. D. Francillon et D. Swainson". "Descriptio (Ex exemplario Germanico)". No date given. A homonym of *europome* Esper [1777]¹³, Die Schmett. 1(1): plate 42, figs. 1-2 (I have not seen this reference of Esper).

bagenii, *Colias* W. H. Edwards. [1884, 19 Jan. - 20 Feb.]²⁴. Papilio 3(7-10): 160-161, no. 11; 3(7-10): 163-164. "From 20 ♂ 24 ♀ from various localities, from So. Colorado to Montana and Dacotah

- (Bismarck)". No specific dates given. Spelled *bageni* by Holland, 1931, Butt. Book, rev. ed., p. 297, under no. 17.
- hybrida*, *Colias philodice* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 82, no. 58d. ♂ cited in W. H. Edwards, 1876, Butt. N. Amer. 2: plate *Colias* III. "Illinois, Georgia". No date given here.
- invertata*, *Colias philodice* Nakahara. 27 Jan. 1926. Bull. Brooklyn Ent. Soc. 20(5): 223. "Holotype: ♂, Midvale, Allegheny Co., Pennsylvania, August 20, 1893 . . . Type in the Barnes Collection."
- kootenai*, *Colias* Cocker. 4 June 1910. Can. Ent. 42(6): 203-204. "Kalso and in Northern British Columbia" [from article title]. ". . . May 17 to 20, and fall brood to Oct. 9". No sex data nor series data given.
- laurae*, *Eurymus eurythème eriphyle* F. Chermock. 9 Mar. 1929. Bull. Brooklyn Ent. Soc. 24(1): 21. ♀ described. "Holotype, VIII-1-1924; Edmonton, Alberta, Canada."
- lutetincta*, *Colias philodice* Wolcott. 11 Apr. 1893. Can. Ent. 25(4): 104, under no. 50. "I first met this form . . . in August, 1885, at Batavia, Illinois . . . But have since taken it at different times at Grand Rapids, [Michigan] . . . and have collected in all about a dozen specimens, one of them a female".
- maria*, *Colias philodice* W. H. Edwards (Grote Ms. name). 13 July 1885. Papilio 4(9-10): 171. Inadvertently describes a cyanide stained specimen.
- melanic*, *Colias philodice* W. H. Edwards. [1884, after 12 Sept. - before 18 Feb. 1885]²². Trans. Amer. Ent. Soc. 11(3-4): 264, under no. 68. Cites [♀] in his Butt. N. Amer. 2: plate *Colias* III, 1876. No locality, series data nor dates given here.
- minor*, *Colias philodice plicaduta* F. Chermock. 28 Feb. 1927. Bull. Brooklyn Ent. Soc. 22(2): 118. "Holotype ♀. June 28, 1925. N. S. Pittsburgh, Pennsylvania."
- miscidice*, *Eurymus philodice*. Scudder. 1 June 1889. Butt. East. U. S. & Canada 2(8): 1115. "Mr. F. G. Sanborn has shown me a very interesting suffused female of this species taken by Mr. John Osgood in Lynn, Massachusetts, in August, 1863".
- nig*, *Colias philodice* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. Amer., Compl. Syn. Catal., p. 82, no. 58b. ♂ from Montreal, Canada described; also cites W. H. Edwards, 1876, Butt. N. Amer. 2: plate *Colias* III, figs. 8-9 (copied from Glover's unpublished plate). No dates given.
- nigricosta*, *Eurymus eurythème eriphyle* F. Chermock. 9 Mar. 1929. Bull. Brooklyn Ent. Soc. 24(1): 21. ". . . occurs in the female sex only". "Holotype, VIII-1-1924; Topoparatype, VIII-1-1924; Edmonton, Alberta, Canada".
- nigridice*, *Eurymus philodice*. Scudder. 1 June 1889. Butt. East. U. S. & Canada 2(8): 1114. ♂ & ♀ described. Cites W. H. Edwards, 1876, Butt. N. Amer. 2: plate *Colias* III, figs. 8-9 (♂). Cites fig. 5 on Glover's unpublished plate I. Also cites other specimens which were not in his possession (one captured 29 July 1883).
- nigrina*, *Colias philodice* Strecker. 1900 [Mar. 9th - 13th]⁷. Lepid., Rhopal. & Heter., Indig. & Exot. Suppl. No. 3: 19. Applies the name to what he formerly called *nig*. Here he cites 3 specimens: ". . . Bethlehem, Pennsylvania. . . Montreal, Canada. . . Orillia, Can.". No dates given.
- nigrofasciata*, *Colias philodice* Reiff. 15 Jan. 1917. The Lepidopterist, Off. Bull. Bost. Ent. Club. 1(3): 22-23; plate 3, 1 unnumb. fig. ♀ described. ". . . was caught . . . during August, 1916 in Massachusetts, and it is now in the collection of the author".

- notatus*, *Papilio* Megerle. 28 Nov. 1803. Catalogus Insectorum Quae Viennae Austriae 28. Novembris 1803 Auctionis Lege Distrahuntur, p. ?, no. 436. "M. ex Georgia . . . 6". No dates given. I have not seen this reference, all data is from Clark & Clark.
- notatus*, *Papilio* Clark & Clark (Megerle Ms. name). 30 Apr. 1941. Proc. Ent. Soc. Washington 43(4): 81, no. 436; & page 83, no. 1. "M. ex Georgia. . . 6". No dates given. Reprint Megerle's description.
- pallidice*, [*Eurymus*]. *philodice*. Scudder. 1 June 1889. Butt. East. U. S. & Canada 2(8): 1115; pl. 7, fig. 6; pl. 7 explanation page, fig. 6. Page 1125 (published later). ♀ described. Cites W. H. Edwards, 1876, Butt. N. Amer. 2: plate Colias II, fig. 6 and plate Colias III, figs. 5-6. Also cites fig. 11 on Glover's unpublished plate 6. Data is general.
- philodice*, *Colias* Godart. 1819. In Godart & Latreille in Latreille. Encycl. Méth. 9(1): 87, no. 35 (named in French); 9(1): 100-101, no. 35. [♂] & ♀ described. "Elle se trouve dans l'Amérique septentrionale, particulièrement dans la Virginie". No series data no dates given. Spelled *philodin* by W. H. Edwards, 1872, In Hayden, Prelim. Rept. U. S. Geol. Surv. Mont. & Port. Adj. Terr. 5th. Rept. Progress, p. 466.
- plicaduta*, *Colias philodice* Nakahara. 27 Jan. 1926. Bull. Brooklyn Ent. Soc. 20(5): 222-223. "Holotype: ♀, Ithaca, N. Y., July 30, 1923 . . . Paratopotype: ♀, July 16, 1924. Paratype: ♀, Lava, Sullivan Co., N. Y., "June." Holotype has been presented to the Barnes Collection, Decatur, Ill[inois], and paratype is in the same collection. Paratopotype is retained in the collection of the writer".
- rarius*, *Eurymus philodice* Gunder. 30 July 1928. Can. Ent. 60(7): 163; plate A, figs. 2, 2a. "Data: Holotype ♀ . . . Scranton, Pennsylvania. (bred . . .), July 8, 1927. In the Author's coll."
- reducta*, [*Colias*]. *philodice anthyale* Dufrane. 28 Feb. 1947. Bull & Ann. Soc. Ent. Belgique 83(1-2): 69. ♀ described. ". . . Temple, Pennsylvania. . .". No series data nor dates given.
- rothkei*, *Colias philodice* Reiff. 15 Aug. 1917. The Lepidopterist, Off. Bull. Bost. Ent. Club. 1(11): 84; plate 7, 1 unnumb. fig. "Collected August 27, 1905 in the Susquehanna Valley, Pennsylvania, . . . Type 1 male in Mr. Rothke's collection". Mentions another specimen (no status).
- serrata*, *Eurymus philodice* F. Chermock. 9 Mar. 1929. Bull. Brooklyn Ent. Soc. 24(1): 21. ". . . occurs in the male sex only . . .". "Holotype, VIII-8-1926; paratypes, No. 1, VIII-8-1926; Nos. 2, 3, 4, VII-10-1926; No. 5, VIII-12-1926; Rossgrove, near Aspinwall, Pennsylvania."
- suffusa*, [*Colias*]. *philodice* Cockerell. Mar. 1889. Entomologist 22(310): 55. Cites: ". . . Massachusetts, Maynard, Butt. of New Eng., pl. VII, fig. 57c". No date given.
- virida*, *Colias philodice* Strecker. 1878 [Sept. - Oct.]⁴. Butt. & Moths N. America, Compl. Syn. Cat., p. 82, no. 58c. ♂ described. "One example . . .". Type locality: [near Montreal, Canada]? No date given.
- vivabunda*, *Colias chrysothème* Hovanitz. 30 July 1943. American Mus. Nov. No. 1240: 2, 3-4. "Holotype Female and Alotype Male. — McKinley National Park, Alaska, July 18 to August 9, 1930, . . ., J. D. Gunder Collection, in the American Museum Natural History. Paratypes. — Twelve males same data as above; eleven males same locality but July 29, 1931, . . .; for males July 15-20, 1931, . . . in Los Angeles Museum; ten while female same data as holotype; four white females July 20-30, 1931, . . . in Los Angeles Museum; one white female August 9, 1930, . . . in Los Angeles Museum".

12. *COLIAS SCUDDERII* REAKIRT.

flavotincta, *Colias scudderii* Cockerell. Apr. 1901. Psyche, Jour. Ent. 9(300): 186. Cites W. H. Edwards, Butt. N. Amer. [1]: plate 10, fig. 5 (♀) (part of illustrated series of *scudderii*, 1872).

ruckesi, *Colias scudderii* Klots. 2 Nov. 1937. Jour. New York Ent. Soc. 45(3-4): 324-326. "Holotype male, allotype female, nineteen male and one female paratypes, from Windsor Creek Canyon, west of Cowles, N. Mex., July 2, 1935, . . . Twenty-five male and nine female paratypes from the same locality, July 4, 1936, . . . All were taken in about middle Canadian Zone, at from 9000 to 9500 ft. altitude, in grassy meadows surrounded by forest, along the Forest Service trail about halfway between Cowles and the summit of Santa Fe Baldy Peak. Holotype, allotype, six male and two female paratypes deposited in the American Museum of Natural History; four male paratypes deposited in the U. S. National Museum; four male paratypes deposited in the Canadian National collection; the remainder of the paratypes at present in the author's collection."

scudderii, *Colias* Reakirt. [12 June 1865]²⁵. Proc. Ent. Soc. Phila. 4 (pp. 213-339): 217-218, no. 2. "Hab. — Rocky Mountains, Colorado Territory. (In my collection, ♂, and that of the Entomological Society. ♀.)". "This species was collected in August, 1864 . . .". Spelled *scudderii* by Holland, 1931, Butt. Book, rev. ed., p. 295, no. 10.

FOOTNOTES

- ¹Vol. 6 title page date is qualified by indirect date data (certain names in Fabricius' article were mentioned in the Allgemeine Literatur-Zeitung, Halle [Jena] 2(303): cols. 1177-1181, 19 Dec. 1807).
- ²Pt. 2 title page date is qualified by indirect date data by A. S. Corbet, 28 Feb. 1939, Jour. So. Bibliog. Nat. Hist. 1(7): 96.
- ³Hemming. 1937. The Generic Names of the Holarctic Butterflies 1: 139, see no. 376.
- ⁴Work title page date is qualified by indirect date data on pages 39 & 48 in the Sept. & Oct. numbers of Vol. 3 of the Bull. Brooklyn Ent. Soc.
- ⁵Dos Passos. 1962. Jour. Lepid. Soc. 16(1): 45-46.
- ⁶Sherborn & Woodward. 1901. Ann. & Mag. Nat. Hist. Ser. 7. 7: 137-140.
- ⁷No. 3 title page date is qualified by the preface date and a Ms. date of receipt (13 Mar. 1900) written on a copy of No. 3 in the library of the Los Angeles County Museum.
- ⁸No. 35 title page date is qualified by the article signature date.
- ⁹The date Sept. 1869 (given for Pt. 4 as per footnote 16) is qualified by the receipt date on Pt. 4 (see Trans. Amer. Ent. Soc. 2: XVIII, 1868-9).
- ¹⁰Tome 5 title page date is qualified by a meeting date (see p. 383).
- ¹¹Kirby. 1871. Syn. Catal. Diurn. Lepid., p. 494, no. 29a.
- ¹²Article received by publisher 9 Mar. 1955. No. 1 containing the article was received at the Allen Hancock Foundation Library (Univ. Sou. Calif.): 11 Oct. 1955.
- ¹³No. 1 title page date: Mar., Apr. & May 1865. No. 2 receipt date (see Proc. Ent. Soc. Phila., 2: 164).
- ¹⁴More actual publication date data is needed.
- ¹⁵Proc. Ent. Soc. Phila. 2: 164 (No. 2 receipt date is given). No. 2: pp. 61-162.
- ¹⁶Hemming. 1931. Proc. Ent. Soc. Lond. Ser. A. 6: 42-45. Pp. 7-14 of Synopsis were published with Butt. N. Amer., pt. 6.
- ¹⁷Hemming. 1937. Hubner 1: 579-589.
- ¹⁸Title page date is qualified by the preface date.
- ¹⁹Hemming. 1937. Hubner 1:146-324.
- ²⁰Sherborn. 1922. Index Animalium, 2nd. Ser. Vol. A-B: cxxxi.
- ²¹Vol. 6 title page date is qualified by the date of signature 3 and the date of a letter of W. H. Edwards to H. Edwards (Henry Edwards correspondence in the Amer. Mus. Nat. Hist., N. Y.) dated 16 Apr. 1877 and stating he would mail a copy of the catalogue the next day.
- ²²No. 2 (Vol. 11) of the Trans. Amer. Ent. Soc. was available 12 Sept. 1884 (see p. xxxvi, vol. 11). The issue date of the separate was 18 Feb. 1885 (see page 2 of separate).
- ²³Hemming. 1937. Hubner 1: 451-487.
- ²⁴Nos. 7-10 (v. 3) were not published before 19 Jan. 1884 (see indirect date data on page 193). No. 1 (v. 4) was published 20 Feb. 1884 (see p. 42, v. 4).
- ²⁵Pp. 221-330 (Mar. & Apr. 1865) receipt date (see Proc. Ent. Soc. Phila., v. 4, p. xii).